

Patent Application
Docket No. 10004410-1
47429-00028USPT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

1 1. (currently amended) A method of fabricating an ion optic device comprising the
2 ~~steps of:~~
3 shaping a ceramic material such that the ceramic material has a cavity, the ceramic
4 material being ~~into~~ at least a portion of the ion optic device; and
5 covering at least a portion of the cavity shaped ceramic material with at least one
6 material selected from a group consisting of a conductive material and a resistive material;
7 and
8 removing a portion of the covering material from said cavity.

1 2. (canceled)

1 3. (original) The method of claim 1 wherein the ceramic material is a material
2 selected from the group consisting of a ceramic, a glass, and a glass-ceramic.

1 4. (original) The method of claim 1 wherein the conductive material is metal.

1 5. (currently amended) The method of claim 2 1 wherein ~~the step of shaping the a~~
2 ceramic material comprises providing the cavity being substantially shaped a substantially as
3 a cylindrical bore in the ceramic material; and
4 wherein ~~the step~~ of removing a portion of the covering material comprises
5 removing at least two portions of the covering material on opposing surfaces of the interior of
6 the bore to create at least two separate, opposing areas of covering material.

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1 6. (currently amended) The method of claim 1 2 wherein ~~the step of shaping a~~
2 ~~ceramic material comprises providing a cavity in the ceramic material; and~~
3 ~~wherein the step of removing a portion of the covering material comprises removing~~
4 at least one portion of the covering material circumscribing the interior perimeter of the
5 cavity to create at least two substantially parallel bands of conductivity on an inner surface of
6 the cavity.

1 7. (original) The method of claim 6 wherein the cavity extends through the ceramic
2 material; and
3 further comprising the step of attaching a conductive grid over one end of the
4 cavity.

1 8. (currently amended) The method of claim 6 further comprising ~~the step of~~
2 separating the ceramic material into a first portion and a second portion; and
3 joining the first portion and the second portion back together with a
4 conductive grid therebetween.

1 9. (currently amended) The method of claim 1 2 wherein ~~the step of shaping~~ [[a]] the
2 ceramic material comprises providing a blind end in the [[a]] cavity ~~having a blind end in the~~
3 ~~ceramic material; and~~
4 wherein ~~the step of covering~~ at least a portion of the shaped ceramic material
5 with at least one covering material comprises covering at least a portion of the blind end in
6 the interior of the cavity with a conductive material.

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1 10. (currently amended) An ion optic device for manipulating ions in a vacuum,
2 comprising:

3 a ceramic substrate having a cavity therein, said cavity is substantially a first
4 cylindrical bore; and

5 a conductive coating on at least two separate areas on opposing surfaces of the
6 first cylindrical bore, wherein the at least two separate areas of conductive coating are
7 separated by a secondary bore having an axis parallel to the first cylindrical bore ~~a portion of~~
8 ~~an interior surface of the cavity, the conductive coating provided for receiving an applied~~
9 ~~voltage to act upon the ions.~~

1 11. (canceled)

1 12. (canceled)

1 13. (canceled)

1 14. (canceled)

1 15. (currently amended) The device of claim ~~40~~ 19 wherein the cavity has an open
2 end and the device further comprises a conductive grid attached to the ceramic substrate over
3 the open end.

1 16. (currently amended) The device of claim ~~40~~ 19 wherein the ceramic substrate is
2 provided in at least two portions and a conductive grid is provided between the two portions.

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1 17. (original) The device of claim 10 wherein the ceramic is a glass-ceramic.

1 18. (currently amended) The device of claim ~~10~~ 19 wherein the cavity has an open
2 end and the device further comprises an electrode member attached to the ceramic substrate
3 over the open end.

1 19. (new) An ion optic device for manipulating ions in a vacuum, comprising:
2 a ceramic substrate having a cavity therein, said cavity having a blind end; and
3 a conductive coating substantially covering the interior surface of the blind end,
4 said conductive coating further provided in at least two separate bands circumscribing the
5 cavity.

1 20. (new) The device of claim 19 wherein the ceramic substrate is a glass-ceramic.